

## REMARKS

### **Concerning Allowable Subject Matter**

Applicants acknowledge the indication of allowability of the subject matter of claims 6, 7, 13, and 14.

### **Concerning the Remarks related to withdrawal of the rejections pursuant to 35 USC 112.**

Applicants' Remarks in their response of December 22, 2004, referenced an amendment to "Claim 28". For the record, applicants clarify that the reference should have been to "Paragraph [0028]", which was amended consistent with the claims as originally filed. The subsequent and Final Office Action of April 19, 2005 reflects that the Examiner correctly understood the response, despite Applicants' misstatement.

### **Concerning the claim of Priority**

The Final Office Action inquires of the basis for Applicants' claim of priority to provisional application number 60/439,886.

Attached are two photocopies of documents provided from the US Patent Office bearing inconsistent file numbers:

1. A postcard receipt identifies the application number as "60/439886";
2. A filing receipt that identifies the application number as "60/439,896"

The text of provisional applications is not available to Applicants from the Patent Office files. Consequently, Applicants are not able to determine the correct file number. Based on the inquiry in the Final Office Action, the correct priority provisional application is likely 60/439,896. Applicant begs the Examiner to investigate file 60/439,896 and if the file is that filed by the Applicants, to then correctly note the priority claim.

### **Concerning the Amendment to the Specification.**

Entry of amended paragraph [0022] is requested. The amendments add punctuation to the names of the compounds and add clarity to the reading of the paragraph. No forbidden new matter is added.

Entry of amended paragraph [0037] is requested. The amendment corrects the inappropriate reference to Example 5 as prior art and correctly identifies Example 2 as prior art. Paragraph [0027] provides support for this correction in that a focus of the instant invention is the novelty, unobviousness, and utility of certain epoxides as acid scavengers. Further, the prior office actions recognized that Example 5 is not prior art by the indication of allowability of claims 6, 7, 13, and 14. No forbidden new matter is added by the requested amendment.

Further as to Paragraph [0037], described therein is a compound sold as ERL-4221 with a chemical name 3',4'-epoxycyclohexylmethyl 3,4-epoxycyclohexanecarboxylate. Examples 1, 3, 5, 6, and 7 incorporate that compound by a different, but recognized, name. The tendered amendment links the compound described in paragraph [0037] and the compound in the Examples by identifying the names as synonyms. The synonyms may be found on the web site of U.S. National Library of Medicine, National Institutes of Health, Department of Health & Human Services, <http://toxnet.nlm.nih.gov/cgi-bin/sis/search> searching under entry 5873. Similar amendments are requested for paragraphs [0022], [0039], and [0040] for the same reason. No forbidden new matter is added by the requested amendments.

#### **Concerning Prior Art Rejections pursuant to 35 USC §102(b)**

Reference 3,957,702 discloses preparation of a phosphorus-containing starch product (Col. 2, lines 18 – 23) prepared from starch polyether hydrolysates (Col. 3, lines 59 – Col. 4, line 3) thereafter reacted with a phosphorus oxyacid. (Col. 5, lines 44 – 49). In a preferred embodiment the phosphorus-containing intermediate is prepared by the reaction of the inorganic phosphoric acid with a starch polyether (or hydrolysate thereof) which has been prepared by the reaction of starch, urea and an alkylene oxide having from 2 to 5 carbon atoms in the alkylene group. (Col. 6, lines 6 – 16).

When applying a prior art reference to pending claims the 'whole' reference must be considered. *In re Lunsford* 148 USPQ 721, 723 (CCPA, 1966); *Ex parte Clayton* 205 USPQ 269, 272-273 (PTO Bd App, 1979).

It is clear from the specification of the '702 reference at Col. 5, line 43 – Col. 7, line 59, that "neutralization" is directed to the phosphorous-containing starch. Specific attention is directed to Col. 6, lines 38 – 43:

The term "neutralizing" is used herein to denote the reaction of the phosphorus-containing starch polyethers or phosphorus-containing starch polyether hydrolysates with an alkylene oxide *so as to destroy the acidity of the starch material*. (emphasis added)

The phosphorous-containing ingredient of '702 is prepared as an additive to polyurethane foam. Col. 6, lines 33 – 35. While excess neutralizer may be tolerated, it is not encouraged. Col. 6, lines 46 - 50.

To anticipate, each, and every, element of a claim must be found in a single prior art source. *In re Marshall* 577 F2d 301, 198 USPQ 344 (CCPA, 1978). Because the '702 reference does not disclose acid scavengers of polyurethane foam, the disclosure of the '702 reference does not anticipate Applicants' claims, rather the '702 reference teaches neutralization of the phosphorous-containing component.

### **Ethanol amine as a 'hydroxide'**

The Final Office Action emphasizes that "ethanol amine" still reads on the hydroxide component containing acid scavenger of applicants' claims. Applicants confess confusion by the apparent equating of ethanol amine with a hydroxide. Ethanol amine has as its name implies an alcohol moiety, which is an –OH group bound to a carbon atom. A hydroxide is an –OH group ionically bound, subject to disassociation in water. A hydroxide, so far as applicants can determine, is not bound to a carbon atom.

Applicants request a further explanation of how ethanol amine anticipates a hydroxide, or withdrawal of the rejection.

### **Concerning Prior Art Rejections pursuant to 35 USC §103(a)**

Reference 5,194,453 is relied upon to reject claims 1 – 5, and 7 – 13 pursuant to 35 USC §103(b) in combination with references 5,958,993, 6,765,035, 5,728,760 and 4,748,192.

The '453 reference is relied upon to describe a flexible polyurethane foam comprising "flexible, flame retardant polyurethane foams". (Office Action 09/28/2004, p. 4). The flame retardants disclosed are melamine, or chlorinated, flame retardants. (Col. 4, 5 – 17; Col. 7, lines 63 – 64). Applicants claims are directed to brominated, not chlorinated, flame retardants.

The '993 reference is urged to disclose claimed brominated flame retardants, (Office Action 09/28/2004, p. 4) as is the '760 reference (*Id.*). The '035 reference is urged to disclose claimed phosphate flame retardants. (*Id.*) The Final Office Action acknowledges that missing from the combination of references is the claimed acid scavenging component.

The Final Office Action again urges that the acid scavenging component is supplied by the '192 reference. The Final Office Action states regarding the disclosure of the '192 reference:

However, Smith ['192] discloses the employment of acid scavengers in polyurethane foam synthesis for the purpose of resisting deleterious hydrolysis and acid formation (see Column 5, lines 8-13, as well as, the entire document).

Final Office Action, page 4.

Applicants dispute the accuracy of this statement that '192 discloses acid scavengers in polyurethane foam synthesis and the conclusion drawn there from.

The paragraph of the '172 reference to which the Final Office Action makes specific reference reads in whole as follows:

It is recognized that minor amounts of other additives may be employed in connection with the A and B components, such as, for example, but not limited to, the use of flame-retardant agents to enhance or impart desirable flame-resistant or flame-performance properties to the resulting spray polymer. Flame-retardant agents which may be employed include, but are not limited to, hydrated silicas and alumina, as well as organic-type flame-retardant agents, such as, for example, phosphates, halogenated compounds and more typically halogenated phosphate esters, such as, for example, polychloro phosphate esters, generally added to the B-side component, to reduce the viscosity and also to reduce flame spread of the polymer. In addition, moisture-scavenging agents may be incorporated, in order to reduce or prevent foaming. For example, it has been found that the employment of molecular sieves or other moisture-scavenging agents may be employed, to eliminate foam tendency. In one embodiment, it has been found that dehydrated molecular-sieve particles, with an alkali cation

suspended in a liquid suspending agent, such as a glycerine, may be added to the B-side component, to eliminate any tendency to foam. Also, acid scavengers may be added to reduce the tendency of flame retardants, particularly halogenated agents, to cause hydrolysis and the formation of acids. Suitable acid scavengers have been found to be epoxy resins which react with the acid formed.

US 4,748,192 Col. 4, line 54 – Col. 5, line 13.

By its literal text, this paragraph discourages foam: "moisture-scavenging agents may be incorporated, in order to reduce or prevent foaming.. . . to eliminate foam tendency. . . . to eliminate any tendency to foam".

Then, after foam has been discouraged the paragraph begins the last but one sentence with the adverb "Also" meaning 'in addition to'. In addition to what? The subject to which the text of the following sentence is to be added is the preceding text that discourages foam. The disclosure states that 'in addition to' non-foaming polyurethane, the acid scavengers specifically referenced in the Office Action in the last but one sentence of the paragraph may be employed

Acid scavenging agents are referenced in the '192 reference a second, and last, time at Col. 6, lines 30 - 34. Here also the reference does not admit the use of acid-scavengers in polyurethane foam.

Where moisture-scavenging or acid-scavenging agents are employed, such as in the preparation of solid spray coatings, the amount of the agent may vary, depending on the amount of the moisture or acid.

*Id.*

For all the foregoing reasons, the assertion in the Final Office Action quoted above that the '192 reference teaches acid-scavenging agents in polyurethane foam finds no support in the '192 reference. Accordingly, applicants' claims are not rendered obvious by the combination of references of record. Applicants request the rejection over 35 USC §103(a) be withdrawn.

Appl. No. 10/757,685  
Amdt. dated June 20, 2005  
Reply to Office Action of April 19, 2005

### **Relief Requested**

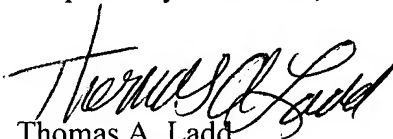
Applicants request that the amendment to the specification requested by this Response be made of record in the application.

Applicants further request that the pending rejection of claims be withdrawn over the art of record for the reasons stated.

Applicants request identification of the correct provisional application and acknowledgment of Applicants' claim of priority thereto.

In the event that Applicants have overlooked the need for an extension of time or a payment of fee, Applicants hereby conditionally petition therefore and authorize that any charges be made to Deposit Account No. 02-0390, BAKER & DANIELS.

Respectfully submitted,



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Page 1 of 2



Commissioner for Patents  
Washington, DC 20231  
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
60/439,896	01/14/2003		160	GRLK-076			

CONFIRMATION NO. 8597

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**FILING RECEIPT**



\*OC000000009457234\*

Date Mailed: 01/31/2003

Receipt is acknowledged of this provisional Patent Application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

**Applicant(s)**

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If Required, Foreign Filing License Granted: 01/31/2003

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No

**Title**

Vacuum cooled foams

**LICENSE FOR FOREIGN FILING UNDER**  
**Title 35, United States Code, Section 184**  
**Title 37, Code of Federal Regulations, 5.11 & 5.15**

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**FEB 06 2003**

**BAKER & DANIELS**

Appl. No. 10/757,685  
Amdt. dated June 20, 2005  
Reply to Office Action of April 19, 2005



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JAN 23 2003

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Mailing Date: January 14, 2003

Receipt is acknowledged of:  
Provisional Patent Application

Inventor(s): Stephen B. FALLOON et al.  
Title: IMPROVED VACUUM  
COOLED FOAMS

☒ Provisional Application for Patent  
Cover Sheet  
☒ Fee Transmittal for FY 2003 (in  
duplicate)  
☒ Provisional Patent Application (5  
pages)

EF 227537473 US

TAL:kjw  
Attorney Docket No.: GRLK-076

JAN 14 2003  
60/439886  
01/14/03